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**From:** on behalf of Von Burg, Annie <Annie.VonBurg@portlandoregon.gov>  
**Sent:** Wednesday, October 19, 2016 2:59 PM  
**To:** Barbara Quinn  
**Cc:** GREENFIELD Sarah; Knudsen, Laura; PARRETT Kevin  
**Subject:** RE: 85% discussion

Hello Barbara,

Thank you for your email. Below is a brief explanation of what data is included in EPA's risk assessment regarding where people fish, how often they fish and what they are catching. Along with our understanding of how EPA estimated the 85% risk reduction. I would be happy to coordinate a time for you to talk with our technical team if you would like more detail.

- Knowing [where people fish](#) is important for focusing outreach regarding fish advisories. However, health risks for people eating fish are based on where the fish live, since the fish are directly exposed to contaminated sediment. Several of the fish species that people eat are known to roam several river miles throughout their lifespan, meaning they can pick up contamination from sediment over a very large area (a much larger area than where a person may fish). Therefore, risk from fish consumption is often communicated in terms of the area a fish may roam, in addition to considering where people fish. The cleanup for Portland Harbor focuses on reducing risks from resident fish, which are fish that spend their entire life within the Harbor area.
- In terms of knowing [how much fish people eat](#): there are standard methods in risk assessment for estimating factors like how much fish people eat, how many years they are fishing, etc. Sometimes information is based on site-specific surveys, sometimes it is based on published studies that provide information on existing data. Much of it is based on national studies that EPA publishes periodically. The risk assessment used published studies about fish ingestion to estimate how much fish people eat in the Willamette River. It evaluated 3 different ingestion rates for non-Tribal adults, and 3 different ingestion rates for non-Tribal children. These rates were the 90th and 99th percentile adult ingestion rates for seafood (including consumers and non-consumers) in the United States, based on EPA's data. In addition, the risk assessment assumed people get all of their fish from the Willamette River for 30 years (not fishing in other rivers, not buying fish from the store). A higher ingestion rate, 175 g/day, was used in the risk assessment to represent fish ingestion by Tribal members, which is based on a study done on Tribal fish ingestion in the Pacific Northwest.
- In terms of knowing [which fish people are eating](#): It is common practice in risk assessment to choose a representative species to serve as a model for other species with similar diets, sizes, etc. The risk assessment studied four different resident fish that represent a range of potential contamination levels and types of fish people eat. The fish selected for studying fish ingestion are from different levels of the food chain (e.g. they have different diets), they have different home ranges (e.g. both small and large roaming areas), and they have different fat content (fish with higher fat are more likely to have higher PCB contaminant levels). Risks from all species and ingestion scenarios evaluated for the Portland Harbor are available in the human health risk assessment. Risk reduction information can be determined for different areas of the Site (different river miles, different Sediment Decision Units), based on tables in the Feasibility Study.
- [85% Risk Reduction](#): EPA developed risk reduction estimates using the above information about species and quantities of fish consumed, which is presented in the human health risk assessment. In the Feasibility Study, EPA estimated the new contaminant concentrations in sediment after construction of each Alternative. By comparing the new sediment concentrations from Alternative I with those from

Alternative A, which is the Alternative representing no remedial action, a person can calculate the percent of contaminant reduction for various areas of the river right after construction. EPA chose to present site-wide contaminant reduction in their slide, but information is available to look at contaminant reduction for smaller areas as well.

- **85% Risk Reduction:** EPA has estimated that on a site-wide basis, clean-up actions (i.e., dredging, capping) will reduce surface sediment concentrations by 85% from current levels. An 85% reduction in sediment concentration will result in an 85% reduction in fish tissue concentration over time. Likewise, an 85% reduction in fish tissue concentrations will result in an 85% reduction in the dose of those chemicals to people who eat fish.

Knowing where people fish, how often, and which types of fish are important in prioritizing areas for cleanup. It is also very important in communicating risk to the public. The City asked EPA to conduct a study to assess the effectiveness of fish advisories to ensure public safety (City's comments to EPA page 14). We look forward to EPA's response to this request.

Again, please let me know if you have any questions and I would be happy to arrange a time for you to discuss further with our technical team.

Annie

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**From:** Barbara Quinn (b) (6)

**Sent:** Sunday, October 16, 2016 8:50 AM

**To:** Knudsen, Laura <Knudsen.Laura@epa.gov>; PARRETT Kevin <Parrett.Kevin@deq.state.or.us>; Von Burg, Annie <Annie.VonBurg@portlandoregon.gov>

**Cc:** Portland Harbor Community Advisory Group members (b) (6)

Peter deFur <environsc@gmail.com>

**Subject:** 85% discussion

Laura, Kevin and Annie,

DEQ at our last PHCAG general meeting explained that they support the 85% human risk reduction offered supposedly by option I. So now we have EPA, Nick Fish's office at the City of Portland and DEQ all supporting this 85% theory that has never been explained to the Community Advisory or the public in any way.

Kevin said it refers to fish toxicity reduction. Can any of you please explain how 85% risk reduction would be achieved if you do not have any research data showing where people fish, how often they fish and what they are catching in the lower Willamette? Or otherwise how you arrived at the 85% reduction theory?

To support the theory, we would need a study of who, what, where, how often people fish. Would EPA, DEQ or the City be willing to fund such a study?

thanks,

Barbara Quinn,  
PHCAG